Figure 1: Theoretical Model of Effects of Lactation on Glucose Tolerance and Type 2 DM.

**Main Effect**

**Lactation**
- Intensive lactation vs. Intensive formula feeding

**Potential Confounders**
- Age, marital status, employment
- Race/ethnicity
- Education/SES
- Pregravid obesity
- Recurrent GDM
- Family history DM (1st degree)
- Parity, pregnancies
- Hormonal contraceptives
- Smoking, alcohol

**Mediators or Confounders**
- Dieting for weight loss
- Dietary intake
- Physical activity

**Intermediate Pathways**

**Glucose Homeostasis – immediate**
- ↓ Plasma glucose (diverted to milk)
- ↑ Glucose utilization for milk production
- ↓ Plasma insulin (due to ↓ glucose levels)
- Reduced β-cell load, preserves β-cell function: (disposition index)

**Secondary Outcomes**

**Energy & Fat Metabolism**
- ↑ Metabolic rate, Energy expenditure (+15-25%)
- ↑ Lipolysis, ↑ HDL-C

**Total and Central Adiposity**
- ↓ Body weight,
- ↓ Waist girth

**Plasma Adipocytokines**
- ↑ Adiponectin

**Primary Outcomes**

**Lasting Effects**
- ↓ Type 2 DM (2-yr Incidence)
- Glucose tolerance:
  - ↓ Fasting glucose
  - ↓ 2 hr post load glucose
- Indices of insulin resistance:
  - ↓ HOMA-IR